Eden Gilbert Kiseka

Embedded Systems Developer & Technical Educator

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Kampala, Uganda

SUMMARY

Embedded Systems Developer and Technical Educator with professional experience in microcontroller programming, circuit design, and engineering education. Strong foundation in C/C++ programming for Arduino and AVR microcontrollers. Proven ability to design educational curriculum and mentor students through hardware-software integration challenges. Background in software development and data analysis provides unique perspective on IoT and connected systems. Currently expanding expertise in computer architecture and digital design.

EXPERIENCE

Backend Engineer

Googah Goats Limited

Oct 2025 – Present
Kampala, Uganda

- Architect backend infrastructure using Google AppScript and JavaScript.
- Design automation systems and data workflows managing business operations.
- Build custom APIs and integration scripts connecting various services.
- Develop understanding of distributed systems and API design.

Technical Instructor - Embedded Systems

Neriko Electronics

Oct 2024 – Sep 2025
Kampala, Uganda

- Taught embedded systems programming to students using C, C++, and Arduino platform.
- Developed comprehensive curriculum covering microcontroller fundamentals through advanced IoT applications.
- Designed hands-on laboratory exercises demonstrating real-world embedded applications.
- Covered topics: GPIO programming, UART/SPI/I2C communication, ADC/DAC interfacing, PWM control, interrupt handling, timer programming.
- Instructed students in industry tools: PlatformIO (embedded development), TinkerCAD (circuit simulation), Fritzing (PCB design), Proteus (circuit simulation), AutoCAD Electrical (professional schematics).
- Created educational materials: lecture notes, circuit diagrams, code examples, project specifications.
- Mentored students individually through debugging hardware-software integration challenges.
- Taught systematic troubleshooting using multimeters, oscilloscopes, and logic analyzers.

TECHNICAL SKILLS

Embedded Programming C, C++, Arduino
Microcontroller Tools Microchip Studio, PlatformIO, Arduino IDE
Communication Protocols UART, SPI, I2C, GPIO, PWM
Peripherals ADC/DAC, Timers, Interrupts, Sensors
Circuit Design TinkerCAD, Fritzing, Proteus, AutoCAD Electrical
Debug Tools Multimeter, Oscilloscope, Logic Analyzer
Platforms Arduino (Uno, Mega, Nano), ESP32/ESP8266, STM32
Embedded Linux Raspberry Pi, Cross-Compilation, Device Drivers

Software Development Python, Kotlin, Java, JavaScript, Swift
Digital Design Logisim, FPGA (learning), RISC-V, Logic Simulation
Hardware Description Verilog/SystemVerilog (learning)
Version Control Git, GitHub, GitLab
Development IDEs VS Code, PlatformIO, Microchip Studio, Arduino IDE
Operating Systems Linux, Windows
Build Systems Makefiles, CMake, PlatformIO
Languages English, Luganda, French

EDUCATION

Associate Degree in Electrical Engineering & Computer Science
University of the People
2025 – 2027
United States

Diploma in Electronics and Electrical Engineering
Uganda Institute of ICT
2025 – 2027
Uganda